LOUISVILLE MEDICAL NEWS.

"NEC TENUI PENNÂ."

Vol. XII. LOUISVILLE, OCTOBER 1, 1881. No. 14.

J. W. HOLLAND, A.M., M.D., ... Editor.
H. A. COTTELL, M.D., . . . Managing Editor.

DEATH OF PROF. JOHN E. CROWE.

We very perfectly realize with Job, "We are but shadows." But yesterday Dr. Crowe stood before his companions almost the perfection of physical health. To one of his colleagues he declared, as late as 3 o'clock in the afternoon, that he never was in more robust and vigorous health; that he never felt better prepared to fulfill his duties to the University. At half past 10 o'clock that night he had passed into eternal rest. This sudden blow came as a shock that was stunning. We looked around and wondered who was to be the next victim, but all reckoning was lost when we reflected upon the condition of our friend and colleague but the day before.

Dr. Crowe was born in Louisville, Ky., in 1829, and he received a good classical education. He was graduated by the University, and began the practice of his profession in this city. He speedily commanded the confidence of the people, and rose into a very fine practice.

Prof. Crowe enjoyed largely the esteem of his professional brethren. In 1868 he was called to the chair of Obstetrics in the University of Louisville, in which he opened a grand career of usefulness. Among his professional colleagues in the University he stood very high. He was urbane and pleasant at all times, and his entire life was devoted to usefulness in his profession. Integrity, straightforward dealing, and frankness were conspicuous elements in his character. But in depicting his eminent worth we are as much at a loss as Tennyson was in "In Memoriam," dedicated to memories of his dead friend:

> "What practice, howsoe'er expert
> In fitting aptest words to things,
> Or voice the richest-toned that sings,
> Hath power to give thee as thou wert?
>
> . . . . . .
>
> "So here shall silence guard thy fame;
> But somewhere, out of human view,
> Whate'er thy hands are set to do,
> Is wrought with tumult of acclaim."

Prof. Crowe has suddenly passed away from among us, but memories of his life will long linger among the cherished recollections of those who knew him. He fell in the very prime of his life, in the very vigor of his professional usefulness. He bade fair for a long continuance of his excellent life. No one who saw him upon the day of the funeral ceremonies of the President of the United States, and in the very midst of the sorrowings of the civilized world on that event, could have imagined that death was speedily to set his inexorable seal upon a life rejoicing in strength, health, and peace. At half past 10 o'clock on Monday night, September 27th, Dr. Crowe suddenly passed from life into "the valley and shadow of death." He was in the fifty-third year of his age, and was approaching the fourteenth year of his occupancy of the chair of Obstetrics in the University. T. S. B.

PASTEUR'S VACCINATIONS.—The extension of the principle of vaccination as a protection against specific contagia has been a favorite dream of the pathologists ever since

Jenner's discovery received its merited recognition. If smallpox could be thus prevented, why not other diseases of like character? The methods by which Jenner made his discovery yielded no important consequences, unless the process of syphilization be so considered.

The remarkable success which has attended Pasteur's labors as a student of the diseases of wine and beer, of the silkworm, and of the grapevine have prepared us to hearken with attention to all he has to communicate. At the International Congress his announcements were received with a degree of enthusiasm whose contrast with the opposition Jenner encountered is a striking proof of the change time has wrought in the attitude of men of science to discoverers.

The distinguished Frenchman has put the world in possession of a means of preventing chicken-cholera, and also the splenic fever of cattle, by vaccination of virus prepared by his peculiar processes given in his own words elsewhere. It is obvious that great benefit shall accrue to farmers and indirectly to the human family if these pests are stamped out. Hardly less valuable are the impulse and direction given to the study of human pathology by the promise which it holds out.

No Muriate of Tin in Sugar.—So much alarm has been spread about by reports on adulteration of sugar that special prominence should be given to the conclusions of painstaking inquirers even if these are wholly negative. Prof. Hyndman, of Cincinnati, has recently made an investigation into this matter, with results which may be summarized as follows: Notwithstading the denial of sugar-refiners, muriate of tin is used for bleaching sugars. The amount required for this purpose is exceedingly minute. The products of four refineries yielded no trace of tin to the most delicate tests. The tin, if used in their preparation, was probably removed by the washings to which sugar is subjected after crystallization.

Original.

ON INFANTILE DIARRHEA.

BY DOUGLAS MORTON, A. M., M. D.*

On one of those very hot days in July a mother with a sick child was seen in a street-car on one of the lines extending out into the country. My informant questioned the mother about the child and found that it was teething and had diarrhea, and that the warm woolen clothes in which she saw it wrapped had been put on "to bring the heat out on the skin," and so to cure the bowels. The mother gave the further information that she was very unfortunate with her children; that four of them had died teething. But another deplorable feature about the whole matter was that this child was under the care of a physician. Now whether this barbarous management was carried out under his advice or due to his neglect it does not matter a great deal. The mere possibility of such malpractice, together with the fact that such drugs as opium and the vegetable astringents are this day given indiscriminately, without regard to the stage of the disease or condition of the patient; and that beef tea is highly recommended by some as a food, and water given sparingly by others, constitute sufficient proof that this already much-discussed subject may yet undergo profitable discussion.

Some authors have, I think, unnecessarily complicated the subject by discussing the different degrees of severity of the disease and its distinct stages in distinct chapters and under distinct heads. The terms summer diarrhea and cholera infantum mean pathologically the same thing. The latter simply represents a severe type of the former, and entero-colitis is merely a stage of either.

The idea of all others that should never be lost sight of in the treatment of any stage of the disease is that failure of digestion, however brought about, is an essential factor. This point I wish to make emphatic, for I do not believe that any one duly impressed with the truth of it will ever prescribe opium or tannin in any of its forms in the early stage.

In an analysis of the post-mortem appearances in eighty-two cases of intestinal inflammation in children Dr. J. Lewis Smith found the upper part of the small intestine

* Read before the Louisville Medico-Chirurgical Society, September 2, 1881.

inflamed in only twelve cases, the ilium in forty-nine cases, and the colon in eighty-one out of the eighty-two cases. The inferences obviously to be drawn from Dr. Smith's analysis are these: That food having passed the pylorus undigested acts as an irritant on the intestinal canal, and that as it passes on it undergoes decomposition, giving rise to products more and more irritant the further it goes until it gets to the colon, which is the seat of lesion in every case which reaches the inflammatory stage.

To treat this disease successfully an intelligent idea of its causation is indispensable, for in few diseases are their causes more susceptible of removal, or at least of restraint, than in this.

At all seasons of the year children live under bad hygienic conditions, cut teeth, and eat indigestible food; but it is only in the hottest part of the summer that they are peculiarly subject to diseases of the alimentary canal. In cities where these diseases prevail about one hundred times as many children die of them in July as in January. As a factor in causation heat is therefore of paramount importance. Upon the other hand it must not be forgotten that among children who do not happen to cut teeth in the hottest months, and who get their food from their mother's breast, the mortality is comparatively small—a fact going to show the importance also of dentition and improper food as causes.

The most satisfactory explanation of the action of heat in causing infantile diarrhea is that based upon a relation existing between the skin, or rather its nerve-terminals, and the vasomotor centers which control the visceral blood-supply, in accordance with which the tone of the arterioles is maintained by the tonic effect of cold air, and depressed, on the other hand, by long-continued heat.* This depression by heat places the vascular caliber in what may be called a state of unstable equilibrium, which is readily destroyed by the ingestion of difficultly-digested food, especially so if the irritation connected with teething is superadded. The congestion following may vary from a degree sufficient simply to bring about a mild diarrhea to that severe enough to cause the gravest cholera infantum.

Since heat plays so important a part in the production of infantile diarrhea, our first step in treatment must be to meet its effects as directly as possible. Its immediate effects are loss of tone of the muscular coats of the visceral arterioles and their consequent dilatation. In most cases the application of cold will be our most efficient remedy, not as an antipyretic so much as a vasomotor stimulant. Cold suddenly applied to the body of a woman with post-partum hemorrhage will excite the flaccid womb and cause it to contract. We know the same effect is produced on unstriated muscle throughout the body. This idea should guide us in our mode of application of cold. The child should be subjected to frequent bathings in water of lower temperature than that of the body. But since it is possible to produce too great a shock, the water should at first be only a few degrees lower, and gradually cooled down during the progress of the bath. To prevent recurrence of vasomotor depression the patient should be kept comfortably cool during the intervals between the baths by sponging and fanning, and he should lie upon a cot rather than a bed or the nurse's lap.

The subject of diet for infants has been so fully and satisfactorily discussed that I do not feel I have occasion to enter upon it here further than to call attention to one or two points which I consider of great importance. It can not be too carefully borne in mind that the administration of food improper in kind or quantity may produce fatal injury; and it often happens that the question most important to be settled is not as to what kind of food, but whether any food at all should be given (Jacobi). If the only evil result of giving improper food were that it failed to be digested and passed through the alimentary canal without adding any material to the organism, it would be a matter of slight importance; but this is far from being all. Undigested food undergoes chemical changes which bring into existence substances that act as irritant poisons upon the surface over which they pass, not only setting up inflammation, but causing copious transudation of material which the patient can ill afford to lose. By withholding food for six or eight hours at a time not only is the patient saved from this loss, but most salutary rest is afforded to the digestive apparatus. It is very difficult to enforce this practice, for it is hard for a mother to resist the crying of her child for food, and it will be very certain to run counter to the convictions of the sympathetic friends who may

* It is not improbable that this depression of vasomotor tone is general, and the predominant congestion which occurs in the internal organs, and in the splanchnic area especially, is due to the physical law necessitating the flow of blood to the area of least resistance. A close analogy, if not identity, thus appears to exist between the essential conditions in cholera infantum and sunstroke.

know of the child's illness, and who watch with critical eye the doctor's whole course of procedure. The child cries rather on account of thirst, however, than for food, and it is eminently proper to give water to the fullest extent that the stomach will retain it. It will be found advantageous to give it in small quantities at short intervals. But there are cases in which the stomach will not tolerate even small quantities of cold water, and in these it will generally be found that water as hot as can be borne, in tablespoonful doses frequently given, will readily be retained.

In a paper on Infantile Diarrhea, by Dr. Jacobi, that appeared two years ago, attention is directed to the importance of excluding oleaginous matters from the diet as far as possible, as these are liable to undergo chemical changes, giving rise to fatty acids which are peculiarly irritant to the intestinal mucous membrane. The fact of this liability makes the question of alimentation in this disease an especially difficult one. Oil enters largely into the normal food of the child and can not be left out without serious injury. The rapid emaciation to be seen in intestinal diseases of children is undoubtedly due largely to the failure of assimilating oil. Fortunately we are not without a resource by which this difficulty may be met with a fair degree of success. It was long ago established by an experiment of Schreger that oil is rapidly absorbed by the skin of young animals, and we have abundant clinical evidence of the value of inunction in treating diseases of children.* It is peculiarly indicated in the disease under present consideration. Further on I will refer more particularly to this point.

There is no disease in which the appropriate administration of drugs is followed by more definitely favorable results, and none on the other hand in which their misapplication is capable of more injury than summer diarrhea of infants. A few doses given during one day may correct some fault of digestion and materially set forward the patient toward recovery; but a few doses, or even one, may also increase the disturbance already existing and bring down the delicately adjusted balances upon the side of death. There is therefore no disease in prescribing medicines for which greater circumspection is needed. In casting about, however, for a remedy in a given case we have, I think, a crucial test for any medicine that may occur to our mind. It is the question, Is there danger of its interfering with digestion? Under this test tannin in all its vegetable combinations must be condemned—certainly in every case in which there is gastric irritability and probably in the initial stage of every other case.

In a large proportion of the cases of infantile diarrhea we meet, especially in those more properly termed cholera infantum, nausea and vomiting are the symptoms with which we have first to deal; for until the patient is relieved of these little can be done in the way of administering either food or medicine. For several years it has been my practice to prescribe for these symptoms hot water to be given at short intervals. It will be found, too, an excellent plan to give it just before food and as a vehicle for medicine. It serves the double purpose of quieting gastric irritability and satisfying the great demand of the organism for water, though it may not give immediate relief to thirst. Hot water is *facile princeps* among the remedies I use for nausea and vomiting. I usually prescribe at the same time from an eighth to quarter of a drop of creasote and a grain of potassium chlorate dissolved in peppermint-water, to be taken in *hot* water as occasion requires. This also acts in a twofold way—as a sedative on the mucous membrane of the stomach, and as a destroyer of the organisms involved in fermentation. I find it rarely necessary, if I see a case from the beginning, to prescribe any thing further for these special symptoms. Occasionally I get good results from small doses of calomel —a twelfth to a sixth of a grain. The cases in which this remedy has seemed to me particularly applicable are those in which dentition plays an especially important rôle. There is no theory that I know of to explain the efficacy of non-purgative doses of calomel as a sedative except that which supposes a small part of the salt is changed in the stomach to the bichloride, which is also a powerful antiferment. If these remedies fail I conclude the symptoms depend on some other cause than simple hyperemia of the lining of the stomach—that the pathological process has advanced a step further, and gastritis is present. For this I continue the use of hot water, and use in lieu of other remedies nitrate of silver—a grain dissolved in

*I know of two instances which prove distinctly that the scalp is especially capable of absorbing substances applied to it. One is the case of a young lady who passed quite profoundly under the influence of alcohol applied quite thoroughly to the head (not to the hair only), and the other occurred in my own experience. At a time when I had used very little quinine, and was peculiarly liable to its physiological action, I used a hair-tonic containing the drug in considerable quantity. I do not know that I ever felt quinine more decidedly than on this occasion.

four or five ounces of distilled water, which is given in teaspoonful-doses every two or three hours.

The next symptom to be considered is diarrhea. I am confident that for this the routine practice of giving astringents so often carried out is thoroughly bad. I know that patients often get well under the use of kino, catechu, and krameria and the various mixtures in which one or the other is the principal agent; but if they are at all severe I believe the recovery would be more properly called a survival than a cure. Of all remedies bismuth is perhaps the one most frequently prescribed, and in many cases it no doubt acts satisfactorily, but because it has often disappointed me I rarely prescribe it. In many cases, the majority perhaps, I do not find it necessary to prescribe any thing especially for this symptom. The proper application of cold, the use of the measures laid down above for gastric irritability, and a suitable diet will generally be found sufficient to accomplish a cure. But if the diarrhea persists I give hydrochloric acid, to a child one year old, in one-drop doses, largely diluted with sweetened water. If this does not give quite prompt relief, opium in proper doses may be added. I know of no remedy more efficacious in a large number of cases of diarrhea, both in children and in adults, than hydrochloric acid. The only circumstance I am aware of that contraindicates it is the existence of nausea. This symptom must first be controlled, otherwise it will not be retained. Hydrochloric acid acts not only as an antiferment and a direct aid to digestion, but very favorably upon inflamed mucous membrane, as is shown, for instance, in its local application in cystitis.

In a considerable proportion of cases, after the severer diarrhea has been controlled, a certain degree of looseness of the bowels continues, which keeps the patient weak and fretful. This state of things, particularly in one of delicate constitution and who has passed through protracted dentition, may last for weeks or even months, and is due to enfeeblement of digestive power and the impaired tone of the intestinal blood-vessels. This condition might be properly called subacute or chronic follicular enteritis, for the intestinal glands are especially involved. In these cases vegetable and mineral astringents are usually pushed indefinitely; and though I believe these agents are better adapted to this stage than any other, I think we have a far better remedy. This is nux vomica. I give the tincture in from one- to three-drop doses to a child one year old, and generally in connection with hydrochloric acid. Nux vomica being one of the very best stomachic tonics, and an excellent vasomotor tonic, also combines properties exceedingly well adapted to this state of things.

Very frequently in infantile diarrhea the stools are observed to be whitish from absence of biliary coloring-matter. You are all aware that this condition has often been explained by that extremely indefinite term, "torpor of the liver," and that calomel has been given in cases innumerable "to stimulate" and "stir up" the delinquent organ. This much-abused viscus is utterly innocent of any such charge. The true explanation is this: That the mucous membrane of the duodenum is congested and swollen, and that lining the common duct often partakes of the same condition, which results in obstruction to the flow of bile, and, further, that the quantity which finds its way to the intestine is so greatly diluted by the large amount of fluid discharged from the bowels that very little color may be imparted to the stools. No jaundice generally results from the obstruction in these cases, because, owing to the small amount of food assimilated and the great loss of material involved in the disease, secretion of bile is greatly diminished; calomel is therefore clearly not the remedy. It is a fact, however, that an increased discharge of bile may follow the administration of purgative doses of calomel under these circumstances, and it is probably explained in the following way: That the peristaltic action of the small intestine is vigorously stimulated by this drug and the anatomical relation of the bile-ducts with the duodenum is such that a strong peristaltic wave may, by pressing upon the distended ducts, force the bile through the partially obstructed common duct; and, further, it is supposed that the stimulation exerted by calomel upon the muscular coat of the small intestine is felt also by that of the bile-ducts. Under this view colorless stools present no special indications.

I will close with a few remarks upon the manifestations which arise from brain- and nerve-disturbance in this disease. The restlessness and the tendency to convulsions which appear early in infantile diarrhea are almost invariably associated with teething, and the most efficient of all remedies is to scarify the inflamed and swollen gums. This will often not only relieve the brain-symptoms, but put a stop to all others. If any additional sedative is needed, bromide of

potassium and chloral may be given with advantage. But a tendency to convulsions comes on late in the disease which is of an entirely different significance and requires entirely different treatment. To administer the bromides or chloral at this time would be a blunder that might prove fatal. Stimulants, when they can be given, defer nerve-storm for a while, but the preëminent need of the organism is for food. You have all perhaps noticed the appearance of the little sufferer in this condition. His features are emaciated to the last degree and pinched. His eyes are stretched wide open and he lies sleepless for many hours. He follows the movements of those about him with his wide-open eyes lit up with a strangely premature intelligence. A little later his eyes are seen to be slightly crossed; a little later still there are twitchings of the facial muscles. Then come general convulsions, then coma, then death. The child dies of starvation. The eager, wistful expression of his face tells that every tissue, every cell, and, more than all the rest, those of the brain and nerves are begging to be fed.

But, though it may be impossible to feed a patient in this state either by the mouth or the rectum, death is not inevitable. There remains still an important resource: the patient may be fed through the skin. I have seen children who had reached the state I have described pass into a natural, tranquil sleep after the inunction of cod-liver oil or cocoa butter, and awake with renewed strength and able now to retain food taken into the stomach. This striking result is easily understood. From the time the tissues cease to get adequate nourishment from ingested food the brain and nerve-tissue feed upon the fat stored up throughout the body, and no profound nervous disturbance occurs. This, however, at length becomes exhausted and nervous manifestations begin at once; but the happy circumstance that oil is readily absorbed by the skin puts it in our power at this supreme moment to satisfy the pressing demand for the kind of food now needed above all others. As soon as this is supplied the brain and nerve return to their normal functions. It is in this connection a very significant truth that about two thirds of the solid organic matter of brain-substance is made up of fat.

LOUISVILLE.

FRANCE has one insane to every four hundred inhabitants.

Reviews.

The Wilderness Cure. By MARC COOK. Pp. 147. New York: Wm. Wood & Co. 1881.

Within a few weeks the death of the author has been announced, and now comes his book, which in truth is an account of benefits to health rather than cures for consumption. When written after a season of steady improvement, though encouraged by his experience to advise others to follow it, yet in candor he penned these words: "The author is far from robust health. The experiment has proved successful beyond the most hopeful anticipation, but it is to be remembered that it is an experiment still under trial." For him at least events have shown the experiment in the long run a failure.

By the "wilderness-cure" is meant camping out in the Adirondacks of New York, about two thousand feet above the sea-level. The disease to be cured is phthisis pulmonalis. In 1879 Prof. A. L. Loomis read a paper before the New York Medical Society in which he praised the climate of this plateau as being of value for consumptives. The paper is incorporated with the present volume, which gives besides a lively and instructive account of Mr. Cook's life in a tent. Those contemplating the experiment would do well to read it before making preparations.

A Manual of Histology. Edited and prepared by THOMAS E. SATTERTHWAITE, M.D., President of the New York Pathological Society, etc. 8vo., pp. 450. New York: Wm. Wood & Co. 1881.

In order to get out his volume in the time and manner best fitted to fulfill his aim of making it a standard, the editor secured the aid of a corps of collaborators. The work was allotted to those according to their special field of study, and the whole revised by Dr. Satterthwaite. To any one familiar with the progress of histology in this country the names of his associates will be a strong guarantee of excellence in the book. They were Drs. Thos. Dwight, J. C. Warren, William F. Whitney, Clarence J. Blake, and C. H. Williams, of Boston; Dr. J. H. C. Simes, of Philadelphia; Dr. B. F. Westbrook, of Brooklyn; and Drs. E. C. Wendt, Abraham Mayer, R. W. Annelon, A. H. Robinson, W. R. Birdsall, D. Bryson Delavan, C. L. Dana, and W. H. Porter, of New York City. The illustrations number a hundred and ninety-

eight, and are generally of high finish. The whole presents a work worthy to rank just below the larger volumes of Stricker and Frey, though practically it will be of more value to the student of human histology.

The Applied Anatomy of the Nervous System: Being a Study of this portion of the Human Body from a standpoint of its general interest and practical utility, designed for a text-book and work of reference. By AMBROSE L. RANNEY, A.M., M.D., Adjunct Professor of Anatomy, University of New York, etc. With numerous illustrations. Pp. 500. New York: D. Appleton & Co. 1881.

The immense strides made in the histology, pathology, and physiology of the nervous system of late years creates a demand for works that shall collect and arrange the new matter so that the doctor can keep *au courant* with the movement. The most difficult part of anatomy by the method adopted by Dr. Ranney becomes very interesting if not very easy. The style is familiar, the illustrations lavishly used, and the practical application of anatomical details made an important feature. It is a useful and attractive book, suited to the time.

Anatomical Studies upon the Brains of Criminals: A contribution to Anthropology, Medicine, Jurisprudence, and Psychology. By MORIZ BENEDIKT, Professor at Vienna. Translated from the German, by E. P. FOWLER, M.D. New York: Wm. Wood & Co. 1881.

Upon an examination of the brains of twenty-two subjects the author discovers a variation from the normal consisting in an increase in the sulci at the expense of the gray matter of the convolution. In the majority of sixteen cases the cerebellum was not so well covered by the posterior lobes as in ordinary brains. An inquiry into the correspondence between brain and skull does not lead him to conclude that from external examination the moral weakness could be detected. As an attempt to break ground in a new field this must be considered an important piece of work.

Dyspepsia: How to Avoid It. By JOSEPH F. EDWARDS. Philadelphia: Presley Blakiston. 1881.

A little book of eighty-seven pages, which contains some excellent advice to a numerous class. It avoids technical words, and presents in an agreeable style the leading facts of diet for the indigestion.

Medical Societies.

THE INTERNATIONAL CONGRESS.

PASTEUR'S ADDRESS ON THE GERM-THEORY.

[From the British Medical Journal.]

M. Pasteur, after referring to his cordial reception by the International Medical Congress, and regarding it as a mark of homage paid to his labors during twenty-five years upon the nature of ferments, proceeded as follows:

Your cordial welcome has revived within me the lively feeling of satisfaction I experienced when your great surgeon Lister declared that my publication in 1857 on milk-fermentation had inspired him with his first ideas on his valuable surgical method. You have re-awakened the pleasure I felt when our eminent physician Dr. Davaine declared that his labors upon *charbon* (splenic fever or malignant pustules) had been suggested by my studies on butyric fermentation and the vibrio which is characteristic of it.

Gentlemen, I am happy to be able to thank you by bringing to your notice a new advance in the study of micro-organisms as applied to the prevention of transmissible diseases—diseases which for the most part are fraught with terrible consequences, both for man and domestic animals. The subject of my communication is inoculation in relation to chicken-cholera and splenic fever, and a statement of the method by which we have arrived at these results—a method the fruitfulness of which inspires me with boundless anticipations.

Before discussing the question of splenic fever vaccine, which is the most important, permit me to recall the results of my investigations of chicken-cholera. It is through this inquiry that new and highly important principles have been introduced into science concerning the virus or contagious quality of transmissible diseases. More than once in what I am about to say I shall employ the expression virus culture, as formerly. In my investigations on fermentation I used the expressions, the culture of milk-ferment, the culture of the butyric vibrio, etc. Let us take a fowl which is about to die of chicken-cholera, and let us dip the end of a delicate glass rod in the blood of the fowl with the usual precautions, upon which I need not here dwell. Let us then touch with this charged point some *bouillon de poule*, very clear, but first of all rendered sterile under a temperature of about 115° C. (239° F.), and under conditions in which neither the outer air nor the vases employed can introduce exterior germs—those germs which are in the air or on the surface of all objects. In a short time, if the little culture vase be placed in a temperature of 25° to 35° C. (77° to 95° F.), you will see the liquid become turbid and full of tiny micro-organisms, shaped like the figure 8, but often so small that under a high magnifying power they appear like points. Take from this vase a drop as small as you please, no more than can be carried on the point of a glass rod as sharp as a needle, and touch with this point a fresh quantity of sterilized *bouillon de poule* placed in a second vase and the same phenomenon is produced. You deal in the same way with a third culture vase, with a fourth, and so on to a hundred, or even a thousand, and invariably within a few hours the culture liquid becomes turbid and filled with the

same minute organisms. At the end of two or three days' exposure to a temperature of about 30° C. (86° F.), the thickness of the liquid disappears, and a sediment is formed at the bottom of the vase. This signifies that the development of the minute organism has ceased—in other words, all the little points that caused the turbid appearance of the liquid have fallen to the bottom of the vase; and things will remain in this condition for a longer or shorter time, and for months even, without either the liquid or the deposit undergoing any visible modification, inasmuch as we have taken care to exclude the germs of the atmosphere. A little stopper of cotton sifts the air which enters or issues from the vase through changes of temperature.

Let us take one of our series of culture preparations—the hundredth or the thousandth, for instance—and compare it in respect to its virulence with the blood of a fowl which has died of cholera; in other words, let us inoculate under the skin ten fowls, for instance, each separately with a tiny drop of infectious blood and ten others with a similar quantity of the liquid in which the deposit has first been shaken up. Strange to say, the latter ten fowls will die as quickly and with the same symptoms as the former ten. The blood of all will be found to contain after death the same minute infectious organisms. This equality, so to speak, in the virulence both of the culture preparation and of the blood is due to an apparently trivial circumstance. I have made a hundred culture preparations—at least, I have understood that this was done—without leaving any considerable interval between the impregnations. Well, here we have the cause of the equality in the virulence.

Let us now repeat exactly our successive cultures with this single difference, that we pass from one culture to that which follows it, from the hundredth to, say the hundred and first, at intervals of a fortnight, a month, two months, three months, or ten months. If, now, we compare the virulence of the successive cultures, a great change will be observed. It will be readily seen from an inoculation of a series of ten fowls, that the virulence of one culture differs from that of the blood and from that of a preceding culture, when a sufficiently long interval elapses between the impregnation of one culture with the micro-organism of the preceding. More than that, we may recognise by this mode of observation that it is possible to prepare cultures of varying degrees of virulence. One preparation will kill eight fowls out of ten, another five out of ten, another one out of ten, another none at all, although the micro-organism may still be cultivated; in fact, what is no less strange, if you take each of these cultures of attenuated virulence at a point of departure in the preparation of successive cultures and without appreciable interval in the impregnation, the whole series of these cultures will reproduce the attenuated virulence of that which has served as the starting-point. Similarly, where the virulence is null it produces no effect.

How, then, it may be asked, are the effects of the attenuated virulences revealed in the fowls? They are revealed by a local disorder, by a morbid modification more or less profound in a muscle, if it is a muscle which has been inoculated with the virus. The muscle is filled with micro-organisms, which are recognized easily because the attenuated ones have almost the bulk, the form, and the appearance of the most virulent. But why is not the local disorder followed by death? For the moment, let us answer by a statement of facts. They are these: the local disorder ceases of itself more or less speedily, the micro-organism is absorbed and digested, if one may say so, and little by little the muscle regains its normal condition. Then the disease has disappeared. When we inoculate with the micro-organism the virulence of which is null there is not even local disorder; the *natura medicatrix* carries it off at once, and here, indeed, we see the influence of the resistance of life, since this micro-organism, the virulence of which is null, multiplies itself.

A little further and we touch the principle of vaccination. When the fowls have been rendered sufficiently ill by the attenuated virus which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects or only effects of a passing character. In fact, they no longer die from the mortal virus, and for a time sufficiently long, which in some cases may exceed a year, chicken-cholera can not touch them, especially under the ordinary conditions of contagion which exist in fowl-houses. At this critical point of manipulation—that is to say, in this interval of time which we have placed between two cultures, and which causes the attenuation—what occurs? I shall show you that in this interval the agent which intervenes in the oxygen of the air. Nothing more easily admits of proof. Let us produce a culture in a tube containing very little air, and close this tube with an enameller's lamp. The micro-organism in developing itself will speedily take all the oxygen of the tube and of the liquid, after which it will be perfectly free from contact with oxygen. In this case it does not appear that the micro-organism becomes appreciably attenuated even after a great lapse of time. The oxygen of the air, then, would seem to be a possible modifying agent of the virulence of the micro-organism of chicken-cholera; that is to say, it may modify more or less the facility of its development in the body of animals. May we not be here in presence of a general law applicable to all kinds of virus? What benefits may not be the result? We may hope to discover in this way the vaccine of all virulent diseases; and what is more natural than to begin our investigation of the vaccine of what we in France call *charbon*, what you in England call splenic fever, and what in Russia is known as the Siberian pest, and in Germany as the *milzbrand*.

In this new investigation I have had the assistance of two devoted young *savants*, MM. Chamberlain and Roux. At the outset we were met by a difficulty. Among the inferior organisms all do not resolve themselves into those corpuscle-germs which I was the first to point out as one of the forms of their possible development. Many infectious micro-organisms do not resolve themselves in their cultures into corpuscle-germs. Such is equally the case with beer-yeast, which we do not see develop itself usually in breweries, for instance, except by a sort of fissiparous production. One cell makes two or more which form themselves in wreathes; the cells become detached, and the process recommences. In these cells real germs are not usually seen. The micro-organism of chicken-cholera and many others behave in this way, so much so that the cultures of this micro-organism, although they may last for months without losing their power of fresh cultivation, perish finally like beer-yeast which has exhausted all its aliments. The anthracoid micro-organism in artificial cultures behaves very differently. In the blood of animals, as in cultures, it is found in translucid filaments more or less segmented. This blood or these cultures freely

exposed to air, instead of continuing according to the first mode of generation, show at the end of forty-eight hours corpuscle-germs distributed in series more or less regular along the filaments. All around these corpuscles matter is absorbed, as I have represented it formerly in one of the plates of my work on the diseases of silkworms. Little by little all connection between them disappears, and presently they are reduced to nothing more than germ-dust. If you make these corpuscles germinate, the new culture reproduces the virulence peculiar to the thready form which has produced these corpuscles, and this result is seen even after a long exposure of these germs to contact with air. Recently we discovered them in pits in which animals dead of splenic fever had been buried for twelve years, and their culture was as virulent as that from the blood of an animal recently dead.

Here I regret extremely to be obliged to shorten my remarks. I should have had much pleasure in demonstrating that the anthracoid germs in the earth of pits in which animals have been buried are brought to the surface by earthworms, and that in this fact we may find the whole etiology of disease, inasmuch as the animals swallow these germs with their food.

A great difficulty presents itself when we attempt to apply our method of attenuation by the oxygen of the air to the anthracoid micro-organisms. The virulence establishing itself very quickly, often after four-and-twenty hours in an anthracoid germ which escapes the action of the air, it was impossible to think of discovering the vaccine of splenic fever in the conditions which had yielded that of chicken-cholera. But was there, after all, reason to be discouraged? Certainly not. In fact, if you observe closely, you will find that there is no real difference between the mode of the generation of the anthracoid germ by fission and that of chicken-cholera. We had, therefore, reason to hope that we might overcome the difficulty which stopped us by endeavoring to prevent the anthracoid micro-organism from producing corpuscle-germs, and to keep it in this condition in contact with oxygen for days and weeks and months. The experiment fortunately succeeded. In the ineffective (*neutre*) *bouillon de poule* the anthracoid micro-organism is no longer cultivable at 45° C. Its culture, however, is easy at 42° or 43° C., but in these conditions the micro-organism yields no spores. Consequently it is possible to maintain in contact with the pure air at 42° or 43°, a mycelian culture of bacteridia entirely free of germs. Then appear the very remarkable results which follow. In a month or six weeks the culture dies; that is to say, if one impregnates with it fresh *bouillon*, the latter is comparatively sterile. Up till that time life exists in the vase exposed to air and heat. If we examine the virulence of the culture at the end of two days, four days, six days, eight days, etc., it will be found that long before the death of the culture the micro-organism has lost all virulence, although still cultivable. Before this period it is found that the culture presents a series of attenuated virulences. Every thing is similar to what happens in respect to the micro-organism in chicken-cholera. Besides, each of these conditions of attenuated virulence may be reproduced by culture. In fact, since the *charbon* does not recur a second time (*ne récidive pas*), each of our attenuated anthracoid micro-organisms constitutes for the superior micro-organism a vaccine—that is to say, a virus capable of producing a milder disease.

Here then we have a method of preparing the vaccine of splenic fever. You will see presently the practical importance of this result. But what interests us more particularly is to observe that we have here a proof that we are in possession of a general method of preparing virus vaccine based upon the action of the oxygen and the air—that is to say, of a cosmic force existing every where on the surface of the globe. I regret to be unable from want of time to show you that all these attenuated forms of virus may very easily, by a physiological artifice, be made to recover their original maximum virulence. The method I have just explained of obtaining the vaccine of splenic fever was no sooner made known than it was very extensively employed to prevent the splenic affection. In France we lose every year, by splenic fever, animals of the value of twenty million francs. I was asked to give a public demonstration of the results already mentioned. This experiment I may relate in a few words: Fifty sheep were placed at my disposition, of which twenty-five were vaccinated. A fortnight afterward the fifty sheep were inoculated with the most virulent anthracoid micro-organism. The twenty-five inoculated sheep resisted the infection; the twenty-five non-inoculated died of splenic fever within fifty hours. Since that time my energies have been taxed to meet the demand of farmers for supplies of this matter. In the space of fifteen days we have inoculated in the department surrounding Paris more than twenty thousand sheep and a large number of cattle and horses.

If I were not pressed for time I should bring to your notice two other kinds of virus attenuated by similar means. These experiments will be communicated bye-and-by to the public.

I can not conclude, gentlemen, without expressing the great pleasure I feel at the thought that it is as a member of an International Medical Congress assembled in England that I make known the most recent results of vaccination upon a disease more terrible, perhaps, for domestic animals than smallpox is for man. I have given to vaccination an extension which science, I hope, will accept as a homage paid to the merit, and to the immense services rendered by one of the greatest men of England, Jenner. What a pleasure for me to do honor to this immortal name in this noble and hospitable city of London.

PROCEEDINGS OF SECTION OF OBSTETRIC MEDICINE.

ON THE PREVENTION AND TREATMENT OF POST-PARTUM HEMORRHAGE. By Thomas More Madden, M.D., M.R.A.I. (Dublin):

The author said that death from flooding after delivery should be considered as a generally preventable accident, and in the more perfect midwifery practice of the future would doubtless be entirely unknown. Some eminent modern authorities, who advocated the employment of perchloride of iron and other remedies on the least appearance of post-partum hemorrhage, appeared to have an exaggerated idea of the frequency of severe flooding, and to forget that some slight loss of blood was a natural termination of labor. In a practice of upward of twenty years Dr. More Madden had only seen one case of death from hemorrhage after childbirth. The majority of cases of post-partum hemorrhage were met with in women who had previously borne children, and the probability of its occurrence was in proportion to the number of the patient's previous confinements. In the Dublin Lying-in Hospital, of eighty-

nine cases of this kind, in sixty-five the patients were multiparæ. In such cases, when there was any reason to anticipate hemorrhage, the membranes should be ruptured as early as possible during labor so as to allow the uterus to contract gradually and firmly; and a dose of ergotine or a dram of the fluid extract of ergot should be injected hypodermically before the head came to press on the perineum. As a prophylactic of hemorrhage, the efficacy of a course of any astringent preparation of iron given during the last months of pregnancy was unquestionable. Hemorrhage after delivery, from laceration of the cervix uteri, was more common than was formerly the case. This arose from the abuse of the long, curved forceps, which was too often resorted to before the full dilatation of the os. The injection of hot water into the uterus was most uncertain in its hemostatic action, and was only useful in cases of extreme depression of the vital powers from excessive hemorrhage, and after the failure of other remedies. Neither was the injection of cold or iced water to be depended upon. The injection of a strong solution of perchloride of iron, although generally effectual as a styptic, was very hazardous from the risk of its causing metroperitonitis. He strongly recommended the introduction of a sponge soaked in a solution of the perchloride of iron, which was to be passed into the uterus (grasped in the accoucheur's hand) and retained there until firm contraction was produced, by which the sponge and the hand were expelled together from the uterine cavity and the flooding was stopped. At the same time he laid great stress on external manual pressure over the uterus in all cases until contraction was produced; and he pointed out the possible danger of thus introducing the hand into the uterus unless when rendered necessary by severe hemorrhage. With regard to the treatment of collapse from hemorrhage after delivery he regarded transfusion, as now practiced, as almost useless in the great majority of cases. Instead of transfusion he advocated the hypodermic injection of large doses of sulphuric ether, as suggested by Von Hecker; and he referred to the history of some instances of the good effects of this remedy in apparently hopeless cases of collapse from post-partum hemorrhage.

Formulary.

ACID GENTIAN MIXTURE.*

Nitro-muriatic acid dil.... fl.℥j; 4.00 fl.Gm.;
Comp. infus. gentian, q. s.
to make..... fl.℥j; 30.00 "

Dose, two teaspoonfuls.

MIXTURE OF SULPHATE OF CINCHONIA.*

Sulphate of cinchonia..... gr. xij; 0.72 Gm.;
Acid. sulphuric, dil..... ♏ xxv; 1.66 fl.Gm.;
Peppermint-water to make, fl.℥j; 30.00 "

Dose, one to four teaspoonfuls.

COMPOUND ETHER MIXTURE.*

Hoffman's anodyne..... fl.℥ ijss; 10.00 fl.Gm.;
Tinct. lobelia..... fl.℥ ss; 2.00 "
Camphor water..... fl.℥ v; 20.00 "

Dose, one to two teaspoonsful.

*From the Pharmacopeia of the Pennsylvania Hospital. —*The Druggist.*

Miscellany.

DEATH OF DR. CROWE.—Dr. Jno. E. Crowe died suddenly, about half past ten o'clock last Monday night, in the office of Dr. M. F. Coomes, whither he had gone to get relief for hoarseness which had seized him about nine o'clock. On Saturday he had consulted the doctor about his throat, which was then giving him some trouble. The affection appeared to be slight, however, and nothing was apprehended from it. He failed to find Dr. Coomes at home, and left, but returned shortly, to find that the doctor was still absent. A few minutes later he made a third call at the office, rang the bell, and sat down on the steps. To the person answering his summons he said, in a very hoarse whisper, "Open the door; I'm dying." He was assisted to a chair in the office and assistance summoned. His breathing was then labored, his face and neck red and turgid. In a few minutes, and before medical aid could be had, he died.

It is considered probable that the acute laryngitis suddenly brought about edema of the glottis; though as no autopsy was held it is not certain, for he might have been seized with *apoplexie foudroyante*, or possibly heart-failure. An examination of his urine drawn after death revealed albumen and tube-casts. It is not unlikely he was the subject of unsuspected chronic Bright's disease. During an attack of erysipelas two years ago he had acute albuminuria with bloody urine, which may have been the initial mischief. Dr. Fauvel, in a treatise entitled Aphonie Albuminurique, has pointed out that acute edema of the larynx may be the first symptom of renal disease. From the fact that he called upon Dr. Coomes, a throat specialist, three times in one hour, getting out of bed to make the last visit, it is very likely that dyspnea was urgent. Persons who conversed with him upon his way observed hoarseness. In other respects Dr. Crowe appeared to be in full health.

His colleagues, the medical men of the city, his medical class, and other bodies to which he was related, passed appropriate resolutions in his honor. He was buried in the presence of many mourning friends on last Thursday.

CAUSE OF GEN. BURNSIDE'S DEATH.—An autopsy showed that the cause of General Burnside's death was *angina pectoris.—Exchange.*

OPHTHALMOLOGY — MIDDLEMORE FUND PRIZE ESSAY.—The interest on the fund of £500 given in trust to the British Medical Association by Mr. Richard Middlemore, of Birmingham, to found a prize for the best essay on Ophthalmology, having accumulated for three years, the Committee of Council now offer, in accordance with the terms of the trust deed, a prize of £50 for the best essay upon the Scientific and Practical Value of Improvements in Ophthalmological Medicine and Surgery made or published during the past three years (British Med. Journal). The successful essay will be the property of the Association. The essays must be in English or accompanied by an English translation, and forwarded under cover, with a sealed envelope bearing the motto of the essay and containing the name and address of the author, addressed to the general secretary of the British Medical Association, 161A, Strand, London, and must be in his hands on or before the 31st of May, 1882.

PRIZE ESSAY.—The Committee of Selection appointed by the chairman of the section on Practical Medicine, Materia Medica, and Physiology at the recent meeting of the American Medical Association, have selected and hereby announce as the subject for the prize to be awarded in 1883 the following question:

What are the special modes of action or therapeutic effects on the human system of water, quinia, and salicylic acid when used as antipyretics in the treatment of disease?

The essays must be founded on original experimental and clinical observations, and must be presented to the chairman of the Committee of *Award* on or before the first day of January, 1883.

N. S. DAVIS,
H. D. HOLTON,
W. B. ULRICH,
Committee of Selection.

DEATH OF PROFESSOR E. LLOYD HOWARD —HIS SUCCESSOR.—We regret to announce the death of Prof. E. Lloyd Howard, of Baltimore, who recently, during an attack of uremic coma, fell into the Chesapeake Bay and was drowned. Dr. Richard Gundry, the medical superintendent of Spring Grove Insane Asylum, near Baltimore, has been elected to fill the chair left vacant in the College of Physicians and Surgeons by the death of Prof. Howard. The title of Prof. Gundry's chair is Materia Medica, Therapeutics, and Mental Diseases.

Selections.

Aspiration of the Gall-bladder.—Dr. P. H. Kretzschman reports a successful case in the Proceedings of the Medical Society of the County of Kings, September, 1881, of which he says:

"Five times has the gall-bladder been aspirated; *thirty-four ounces and a half* of bile have been removed within one month. At every operation the patient felt much relieved, and since the first withdrawal of bile the constitutional symptoms diminished in severity. At no time did the operation itself place our patient in danger, and generally speaking there was no pain attached to it."

The following generalizations he appends to his paper:

1. The operation can be performed with *safety*, without taking particular precautions in uniting the walls of the gall-bladder with those of the abdomen.

2. The operation can therefore be done as soon as the diagnosis of a dilated gall-bladder has been made, if from its size there seems to be danger of rupture, or if the patient suffers much pain. Aside from these conditions, when aspiration should be resorted to without hesitation, the question presents itself whether it would not be good practice to evacuate the contents of a distended gall-bladder under all circumstances, simply to remove the superfluous bile, which, being cut off from its natural destination, is bound to be reabsorbed by the lymphatics, carried back into the circulation and produce, to a greater or lesser degree, a condition which is generally known as "cholemia."

3. A very fine trocar, such as would be of not much value in case of simple puncture, can be employed; and by means of suction even a tenacious fluid can be removed from the gall-bladder.

4. The insertion of a small trocar or an aspirating needle is almost a painless procedure.

5. In cases of doubt as to the presence of gall-stones, a flexible probe can be passed through the canula and used as a sound.

6. Aspiration being a safe and painless operation, it can be employed for the purpose of aiding diagnosis.

The rules for performing the operation are thus formulated.

1. Aspiration should not be delayed, but resorted to as soon as the diagnosis of distended gall-bladder has been made.

2. A good sized aspirating needle or a fine trocar should be used.

3. The instrument should be introduced into the gall-bladder at a point as high up and as near to the border of the liver as possible.

4. On withdrawing the instrument the punctured wound in the abdominal wall should at once be closed by some kind of plaster or by the introduction of a stitch.

5. The operation should be repeated as often as the gall-bladder becomes distended again.

6. The common rules of surgery as to cleanliness, etc., should be strictly adhered to.

Localization of Disease in the Brain and the Spinal Cord.—A discussion on this subject was opened by Dr. Brown-Sequard (Paris), who read a paper in which the following questions were proposed

for consideration: 1. Are there parts of the brain and spinal cord which, being diseased, give rise to symptoms which no other parts can produce? 2. What is the diagnostic value of certain symptoms to show the seat of disease in the brain or spinal cord? 3. What gains have we made in diagnosis by the recent researches on localization of disease in the cerebro-spinal centers? As regards the first of these questions, he tried to show that, although there is no symptom which alone possesses an absolute pathognomonic value concerning the seat of the disease, there are morbid manifestations, the co-existence of which establishes almost certainly, and sometimes certainly that special parts are diseased. As regards the second question, he spoke of the connection (1) of aphasia with disease of the third frontal convolution, the island of Reil, and the occipital lobe on the left or on the right side; (2) of the Jacksonian convulsions with some cerebral convolutions; (3) of brachial, crural, facial paralysis, and of other kinds of monoplegia, with lesions of certain convolutions; (4) of cerebral hemianesthesia with disease of the optic thalamus or of the posterior part of the internal capsule; (5) of hemichorea with disease of the corpus striatum or of the anterior part of the internal capsule; (6) of titubation with disease of the cerebellum, and of some parts of the base of the brain; (7) of diabetes with disease of the floor of the fourth ventricle; (8) of labio-glosso-laryngeal paralysis with disease of certain groups of nerve-cells of the medulla oblongata; (9) of some symptoms of labio-locomotor ataxy with disease of certain parts, and of other of the symptoms of that affection, with disease of other parts of the posterior columns of the spinal cord; (10) of paranesthesia with disease of the central parts of the lumbo-dorsal enlargement of the spinal cord; (11) of progressive muscular atrophy with atrophy of the nerve-cells of the anterior gray cornua of the spinal cord; (12) of the essential infantile paralysis with small foci of inflammation of the part of the gray matter just named; (13) of intermittent paraplegia with ischemia of the dorso-lumbar enlargement of the spinal cord. As regards the third question, he showed that considerable advances had recently been made, although much less than was generally believed.

A Case of Hypodermic Injection in Nevus.—Dr. S. Hudson says (Ohio Med. Journal):

I observed a short article in the last number of the Recorder, from a correspondent of the British Medical Journal, on the danger of hypodermic injections of tincture of iron in nevus. I, too, have had some experience in the use of injections in nevus, though not with the iron. About three years ago Mr. T., a young man about twenty years of age, came to my office and showed me a small, warty excresence on the end of his left index finger. He informed me that at times it bled profusely, and desired me to take it off. Without further examination or thought, I took my hypodermic syringe with a strong solution of nitrate of silver—perhaps three or four drops—and injected it into the nevus. In less than five minutes he was suffering the most intense pain and agony; his hand and arm up to his elbow became white and cold; and for three hours we labored constantly, rubbing and bathing it in hot cloths. I finally succeeded in quieting him with morphine, and his father took him home. The next morning I had the mortification to see that two of his fingers were dead—the first and second—to the second joint, and I feared from his appearance that he would lose his arm, if not his life. We did all we could in order to restore the warmth and color to his hand, but all to no purpose, for in less than a week the index finger (in which I inserted the solution) and the next one to it were black and dry as far up as the second joint, and his suffering for ten days was terrible. In eight weeks a line of demarcation commenced forming, and I had the *pleasure* of amputating the poor boy's fingers just above the second joint.

I censured, reproached, and cursed myself and every body else. Others had used hypodermic injections in nevus; I had used them before, with no unpleasant results; and why all this trouble? I could readily understand what was the cause of such unpleasant results. The solution had entered a small blood-vessel, producing coagulation and thrombus, but it was too late to remedy my mistake. The community, I can assure you, gave me no credit for the matter, and the friends of the boy were advised to prosecute me.

The hypodermic syringe is a great favorite with me, but I do not believe I shall ever use it again in nevus with a solution of nitrate of silver or tincture of iron.

A New Physical Sign of Thoracic Aneurism.—Dr. Drummond, of Newcastle, has demonstrated a new physical sign which is likely to be of great diagnostic importance in thoracic aneurism. When a patient suffering from aneurism of the thoracic aorta is made to draw a long, deep breath and then to close the mouth and expire slowly through the nose, short, puffing, expiratory sounds are heard—synchronous with the systole of the heart—on auscultation of the trachea. Dr. Drummond believes this phenomenon to be due to the sudden systolic expansion of the sac expelling air from the chest. He has found it absent in cases of aortic valvular disease simulating aneurism, but has not yet thoroughly worked out the significance of the sign.—*Med. Press and Circular.*

Neuralgic Character of Certain Forms of Angina, and their Treatment by Sulphate of Quinine.—Dr. R. Saint-Philippe, surgeon to the Bordeaux hospitals, points out a certain number of cases of angina observed by him, and characterized by intermittent symptoms, so that the patient scarcely suffers at all in the morning, and is the victim of intolerable pain in the evening (*Jour. de Méd. de Bordeaux*). These forms of angina, which Dr. Saint-Philippe is inclined to refer to neuralgia of the median branch of the trigeminus, are amenable to treatment by sulphate of quinine. He prescribes from forty to fifty centigrams (six to seven and a half grains) two hours before the attack, and obtains cure.—*London Med. Record.*

Ammonia in Chloroform-poisoning.—Dr. Sidney Ringer, in a paper published in the Practitioner, shows by experiments the rapid influence ammonia exerted in a frog's heart, whose action had been arrested by an overdose of chloroform. The chloroform evidently paralyzes the heart's muscular substance, affecting the ganglionless and nerveless portion of the ventricle exactly in the same way as any other part of it. [In the Medical Times and Gazette, May, 1871, Dr. Neild reports a case of apparent death from chloroform inhalation, which recovered from the alarming state of syncope after four half-dram injections of liquor ammoniæ into the median cephalic vein.]—*London Med. Record.*